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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Ann Marie Schmidt and David Stern

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For : METHODS FOR DETERMINING WHETHER A COMPOUND IS CAPABLE OF INHIBITING THE INTERACTION OF A PEPTIDE WITH RAGE

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Assistant Commissioner for Patents
Washington, D.C. 20231

DECLARATION UNDER 37 C.F.R. §1.132 OF ANN MARIE SCHMIDT

I, Ann Marie Schmidt, M.D., hereby declare that:

1. I am a co-inventor of the invention currently being claimed in the subject patent application.

2. I am also an Associate Professor, Division of Surgical Sciences, Department of Surgery and Medicine at Columbia University in New York, New York. A copy of my curriculum vitae is attached hereto as **Exhibit 1**.

3. I am familiar with United States Patent No. 5,864,018 ("'018 patent") issued January 26, 1999 to Michael J. Morser et al. and entitled Antibodies to Advanced Glycosylation End-Product Receptor Polypeptides and Uses

Thereof. The Detailed Description of the Invention at paragraph A of the '018 patent purports to be a screening method involving the incubation of a product with an advanced glycation endproduct (AGE) polypeptide in the presence of receptor for advanced glycation endprodut (RAGE), to determine whether the product will result in a decrease in the amount of AGE/RAGE complex formed.

4. I am also familiar with the Reddy et al. manuscript published August 29, 1995, entitled "N$^{\varepsilon}$-(Carboxymethyl)lysine Is a Dominant Advanced Glycation End Product (AGE) Antigen in Tissue Proteins." The Reddy et al. manuscript suggested that a particular AGE, the CML-adduct, might be a dominant AGE found *in vivo*.

5. I reviewed the Reddy et al. manuscript and I understood that CML might be a dominant AGE adduct found *in vivo*.

6. Also, the common understanding in the field as of October 5, 1998, the earliest date priority of which is claimed in the present invention, was that AGEs are a heterogeneous group of compounds and that CML might be a dominant AGE found *in vivo*. Copies of scientific publications evidencing that this was the common

understanding in the field as of October 5, 1998 are attached hereto as **Exhibits 2-3**. In addition, while this work gave a potentially quantitative assessment of the impact of this CML adduct *in vivo*, it provided no insight into the potential binding of CML to RAGE or the importance of the adduct biologically. Thus, even though prevalent *in vivo*, it was possible that CML adducts were biologically inert and not capable of modifying cellular properties. We felt that should AGEs be capable of engaging cell surface receptors such as RAGE, they may be biologically relevant even in very small quantities.

7. Accordingly, I directed and supervised experiments to make many AGE adducts in order to test for binding to RAGE. The results of these experiments demonstrated that two AGEs, pentosidine and methylglyoxal, did not bind RAGE while one AGE, the CML adduct, did bind RAGE.

8. The experiments referred to in paragraph 7 are referenced in the subject patent application at page 28, lines 17-20, and page 34, lines 4-5 which recite that "in order to determine which one(s) of known AGE structures interact with RAGE, we prepared a series of synthetic AGEs and tested their ability to interact with RAGE" and that "only CML-BSA bound sRAGE in a dose-dependent manner with $K_d \sim 76 \pm$ 3.7 nM (similar to that observed with heterogeneous AGE binding to RAGE, 50-70 nM)." That the

CML adduct of Reddy et al. might bind preferentially to RAGE was surprising because at the time, it was not known which of the series of synthetic AGEs might bind to RAGE.

9. Accordingly, it would not have been obvious to one of ordinary skill in the field as of August 14, 2000 that a specific AGE, the CML adduct, would preferentially bind RAGE, i.e. there was no reasonable expectation of success that the CML adduct would bind RAGE given that not all AGEs bind to RAGE.

I hereby declare that all statements made herein of our own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under § 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Date: 6/18/02

Ann Marie Schmidt

Ann Marie Schmidt, M.D.

American Society of Clinical Investigation
Society for Neuroscience

RESEARCH AND/OR PROFESSIONAL EXPERIENCE

Intern, Internal Medicine, New York University Medical Center, Bellevue Hospital Center, July, 1983 - June, 1984.

Resident, Internal Medicine, New York University Medical Center, Bellevue Hospital Center, July, 1984 - June, 1987.

Chief Resident, Internal Medicine, New York University Medical Center, Bellevue Hospital Center, July, 1987- June, 1988.

Fellow, Hematology, New York University Medical Center, Bellevue Hospital Center, July, 1988 - June, 1989.

Fellow, Medical Oncology, New York University Medical Center, Bellevue Hospital Center, July, 1989 - June, 1990.

Teaching Assistant, Internal Medicine, New York University School of Medicine, New York, New York, 1983-1990.

Post-Doctoral Research Fellow, Columbia University, Department of Physiology and Cellular Biophysics, Laboratory of Dr. David Stern, July, 1990 - June, 1993.

Assistant Professor, Columbia University, Department of Medicine, Division of Molecular Medicine, July, 1993 - November, 1998.

Assistant Professor, Columbia University, Department of Surgery, January 1995- November 1998.

Associate Professor, Division of Surgical Science, Departments of Surgery and Medicine, with tenure, December 1, 1998 - present.

COMMITTEE MEMBERSHIPS, MEETING CHAIRMANSHIPS, AND PLENARY SESSIONS:

1996 Co-chairperson: Session on "Featured Research - Oxidant Signaling and Gene Regulation", American Heart Association, National Meeting, New Orleans, Louisiana

1997 Co-chairperson: Session on Diabetes and Endothelial Dysfunction, Satellite Symposium of Diabetes and Atherosclerosis, Lyon, France

1997 Co-chairperson: Session on "Animal Models of Disease/Diabetes," American Heart Association, National Meeting, Orlando, Florida

1998 Co-chairperson: Session on "Diabetic Complications," American Diabetes Association, 58th Scientific Sessions, Chicago, Illinois

1999 Co-chairperson: Session on "Macrophage Activation and Scavenger Receptor Biology,"

Keystone conference, Inflammatory Paradigms and the Vasculature, Santa Fe, New Mexico

1999 Rapporteur, Session on "Vascular permeability in diabetes," Endothelial Cell Function in Diabetes Mellitus, The Wellcome Trust Genome Campus, Hinxton, Cambridgeshire, United Kingdom

1999 Chairperson, Session on "Emerging Mechanisms of Diabetic Complications," American Diabetes Association, 59th Scientific Sessions, San Diego, California

1999 Co-chairperson, NIH/NIDCR-sponsored workshop on Diabetes and Oral Health, Washington, D.C.

Session chair, NIH/NIDCR-sponsored workshop on Diabetes and Oral Health, "Diabetes and Wound Healing," Washington, D.C.

2000 Co-Chairperson, Session on "Mechanisms and Diabetes and Atherosclerosis," American Heart Association, National Meeting, New Orleans, Louisiana

2001 Co-Organizer, Physicians & Surgeons Biomedical Sciences Symposium, "Angiogenesis," Arden House, Harriman, New York, July, 2001 &

Session chair: Tumor Biology, Key Roles for Angiogenesis and Lymphangiogenesis

2001 Session chair, 6th EASD/JDRF Oxford Workshop on Molecular and Genetic Aspects of the Vascular Complications of Diabetes, session on Mechanisms of Vascular Disease, Keble College, Oxford, UK, August, 2001

2001 Co-Organizer, "The Diabetes Summit: A New Patient Treatment Regimen in Cardiovascular Disease", Anaheim, California, November, 2001

EDITORIAL SERVICE

1997 Associate (Guest) Editor, Journal of Gerontology

1998 Guest Editor, Investigative Ophthalmology and Visual Sciences

REVIEW COMMITTEES

1997 National Institutes of Health/National Institute of Dental Research, ad hoc reviewer, Special Emphasis Panel

1997 Wellcome Trust, London, England

1997 NIH/DRG: National Institues of Aging, ad hoc reviewer

1998 NIH/DRG: National Institues of Aging, ad hoc reviewer

1998 Special Review, University of Washington Diabetes Endocrinology Research Center (DERC)

New Investigator Awards

1998 Reviewer, National Insitutes of Health, Request for Applications: "Pathogenesis and Therapy of Diabetic Complications"

1998 Endocrine Fellows Foundation, ad hoc reviewer

1999 Reviewer, Special Emphasis Panel, Program Project Grant, National Institute of Dental and Craniofacial Research

1999 Reviewer, Special Emphasis Panel, Program Project Grants, Mechanisms of Vascular Disease, National Heart, Lung and Blood Institute

1999 NIH/DRG: National Institues of Aging, ad hoc reviewer

1999 Juvenile Diabetes Foundation International, ad hoc reviewer

1999 Reviewer, Special Emphasis Panel, National Institutes of Health, Request for Applications: "Pilot studies for new therapies for type 1 diabetes and its complications"

1999 Member, Vascular Biology I Study Section, American Heart Association

2000 Member, NIH/DRG National Institutes of Aging: Biology of Aging - B

2000 National Institutes of Dental and Craniofacial Research, ad hoc reviewer

2000 Member, NIH Advisory Committee, Use of FY2001 Balanced Budget Act Funds for Type 1 Diabetes Research

2000-2002 Member, Juvenile Diabetes Foundation International Medical Science Research Committe: Group III: Complications

2000 NIH/NIDDK/DRG: ad hoc reviewer

2001 Special Emphasis Panel (Chairperson), National Institute of Neurological Disorders and Stroke

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2. Schmidt, A.M., Blum, R.H., Clayton, M., Speyer, J.L., Bottino, J., and Muggia, F.M.

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implications for the pathogenesis of dialysis-related amyloidosis. J. Clin. Invest. 98:1088-1094, 1996.

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II. Invited Articles/Chapters

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III. Abstracts

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INVITED PRESENTATIONS

1. "Endothelial cell and mononuclear phagocyte receptors for advanced glycation endproducts," Gordon Research Conference, Vascular Biology, Colby Sawyer, New Hampshire, 1992.

2. "Cellular receptors for advanced glycation endproducts," American Heart Association Meeting, Mini-Symposium in Thrombosis and Hemostasis, New Orleans, Louisiana, 1992.

3. "Cellular receptors for advanced glycation endproducts: implication for endothelial and monocyte dysfunction in the pathogenesis of vascular lesions," Atherosclerosis Symposium, University of Regensburg, Germany, 1993.

4. "Cellular receptors for glycated proteins: implications for vascular dysfunction in atherosclerosis and diabetes," FASEB meeting, New Orleans, Louisiana, 1993.

5. "Cellular receptors for advanced glycosylation endproducts: implications for vascular disease in diabetes," Scientific Conference on the Molecular Biology of the Vascular Wall, American Heart Association, Boston, Massachusetts, 1993.

6. "Cellular receptors for advanced glycation endproducts: implications for vascular disease in atherosclerosis and diabetes," Research Seminar, National Institutes of Aging, National Institutes of Health, Baltimore, Maryland, March, 1994.

7. "Cellular receptors for advanced glycation endproducts: implications for vascular dysfunction in atherosclerosis and diabetes," Grand Rounds, Department of Medicine, Columbia

University College of Physicians and Surgeons, New York, New York, March, 1994.

8. "Atherosclerosis, aging and diabetes: common mechanisms, "Minisymposium on Vascular Permeability, FASEB, Anaheim, California, April 1994.

9. "Glycated proteins and their receptors in vascular disease," Grand Rounds, Department of Cardiology, UCLA School of Medicine, Los Angeles, California, April 1994.

10. "Advanced Glycation Endproducts and their cellular receptor: implications for diabetic vascular disease, Endocrinology Grand Rounds, Department of Medicine, Columbia University College of Physicians and Surgeons, New York, New York, January, 1996.

11. "AGE-receptor interaction: implications for accelerated atherosclerosis observed in diabetes, Cardiology Grand Rounds, Department of Medicine, New York University School of Medicine, New York, New York, February, 1996.

12. "AGE-RAGE cellular interaction: implications for the development of diabetic complications," Nephrology Grand Rounds, Department of Medicine, Downstate Medical Center, Brooklyn, New York, May, 1996.

13. "RAGE in atherosclerosis and Alzheimer's disease," Clinical Research Seminars, Rockefeller University, New York, New York, June, 1996.

14. "RAGE: implications for complications of diabetes," Grand Rounds, Department of Medicine, Division of Nephrology, North Shore University Hospital, Manhasset, New York, September, 1996.

15. "AGE-RAGE interaction: implications for the development of diabetic complications," Grand Rounds, Department of Pediatrics, Columbia University College of Physicians and Surgeons, New York, New York, October, 1996.

16. "The receptor for advanced glycation endproducts: implications for the pathogenesis of diabetic complications," Scientific congress on the vascular endothelium: basic and clinical aspects, Pisa, Italy, November, 1996.

17. "Receptor for AGE, RAGE: implications for the biology of aging," National Institutes of Aging and the Glenn Foundation workshop on "Molecular aspects of age-related cardiovascular decline," Montecito, California, January, 1997.

18. "Interaction of Advanced Glycation Endproducts (AGEs) with their cellular receptor RAGE: implications for vascular and inflammatory cell dysfunction in diabetes," Symposium of the Baker Medical Research Institute on "Atherosclerosis and the Vessel Wall," Melbourne, Austrailia, February, 1997.

19. "Prevention of diabetic complications," 10th annual congress, Mexican Diabetes Federation, Aguascalientes, Mexico, March, 1997.

20. "Advanced Glycation Endproducts (AGEs) in diabetic periodontal disease," Sunstar Chapel Hill Symposium, Periodontal diseases and human health, Chapel Hill, North Carolina, March, 1997.

21. "RAGE and diabetic atherosclerosis," Annual Scholar's Day Program, Council for Tobacco Research, New York, New York, April, 1997.

22. "RAGE and the pathogenesis of diabetic complications," Seminar, Center for Transgene Technology and Gene Therapy, Leuven, Belgium, May, 1997.

23. "Interaction of glycated proteins with the vessel wall: implications for the pathogenesis of accelerated atherosclerosis in diabetes," 29th annual Hugh Lofland Conference on atherogenesis and the vessel wall, Honolulu, Hawaii, June, 1997.

24. "AGEs and RAGE: implications for the pathogenesis of diabetic complications," Invited speaker, Symposium on Endothelial Dysfunction in Diabetes, annual meeting, American Diabetes Association, Boston, Massachusetts, June, 1997.

25. "Interaction of Advanced Glycation Endproducts (AGEs) with their receptor RAGE: implications for the biology of aging," 1997 World Congress of Gerontology, 16th Congress of the International Association of Gerontology, Adelaide, Australia, August, 1997.

26. "RAGE and vascular cell dysfunction," Juvenile Diabetes Foundation and European Association for the Study of Diabetes: Workshop on Diabetic Retinopathy, Oxford, England, September, 1997.

27. "Advanced Glycation Endproducts and RAGE: Implications for enhanced oxidant stress in the pathogenesis of complications in diabetes and beyond," 4th Kobe Study Group of Vascular Medicine: Cross Talk between NO and Oxygen Radicals, Kobe, Japan, September, 1997.

28. "Interaction of Advanced Glycation Endproducts with their cellular receptor RAGE: implications for the pathogenesis of complications in diabetes and beyond," Center for Blood Research, Harvard University, Boston, Massachusetts, September, 1997.

29. "Interaction of advanced glycation endproducts with their cellular receptors," Symposium, Diabetetes and Endothelial Dysfunction, Lyon, France, October, 1997.

30. "AGEs and RAGE: Implications for the pathogenesis of diabetic complications," Grand Rounds, Department of Medicine, New York University School of Medicine, New York, New York, October, 1997.

31. "Selective Anti-thrombotic therapy without interfering with protective hemostasis: role of Factor IX/IXa," Frontiers in Translational and Clinical Research: Anti-Coagulation: Present and Future, Columbia University College of Physicians and Surgeons, New York, New York, November, 1997.

32. "AGEs and RAGE: Implications for the pathogenesis of complications in diabetes and beyond," Seminar, Department of Physiology and Cellular Biophysics, Columbia University College of Physicans and Surgeons, New York, New York, November, 1997

33. "AGEs and RAGE: Implications for the pathogenesis of complications in diabetes, atherosclerosis and beyond," Seminar, Novartis, Summit, New Jersey, December, 1997

34. "RAGE: A novel target for the therapy of complications in diabetes and beyond," Invited Scholar lecture, Department of Dermatology, Columbia University College of Physicians and

Surgeons, New York, New York, Janaury, 1998.

35. "AGEs and RAGE: Implications for vascular complications in diabetes," Keystone symposium on the Endothelium, Lake Tahoe, Nevada, March, 1998.

36. "Receptor for AGE: Implications for the pathogenesis of complications in diabetes," Diabetes Research Seminar, Case Western University School of Medicine, Cleveland, Ohio, May, 1998.

37. "Receptor for Advanced Glycation Endproducts (AGE) and implications for the pathogenesis of diabetic complications ", New York/New Jersey Molecular Biology Club, New Jersey Medical School, Newark, New Jersey, May, 1998.

38. "Active site-blocked Factor IXa in Cardiac Surgery," Cambridge Healthech Institute symposium on novel anticoagulants, San Diego, California, May, 1998.

39. "Receptor for AGE (RAGE): Novel insights into Diabetes and Inflammation," Department of Pediatrics Grand Rounds, Columbia University College of Physicians and Surgeons, August, 1998.

40. "RAGE and the pathogenesis of vascular complications in diabetes," Xth International Vascular Biology meeting, Cairns, Australia, August, 1998.

41. "Heparin and its alternatives," Annual meeting, Extracorporeal Life Support Organziation, San Antonio, Texas, September, 1998.

42. "Suppression of accelerated diabetic atherosclerosis by soluble RAGE (sRAGE)," The Vascular Endothelium: Basic and Clinical Aspects, Second International Congress, Pisa, Italy, October, 1998.

43. "AGE receptors and oxidative stress," Diabetic Complications Conference, Joint Symposium in celebration of the Joslin Diabetes Center's 100th anniversary, Boston, Massachusetts, October, 1998.

44. "Receptor for AGE, RAGE: Implications for chronic complications in diabetes and inflammation," Whitaker Cardiovascular Institute Seminar, Boston University School of Medicine, Boston, Massachusetts, January, 1999.

45. "Receptor for AGE (RAGE): "Novel Proinflammatory Ligands and Insights into Inflammation," Keystone Conference, Inflammatory Paradigms and the Vasculature, Santa Fe, New Mexico, February, 1999

46. "RAGE and implications for chronic complications in diabetes and inflammation," Bergen Community Regional Blood Center, Paramus, N.J., March, 1999.

47. "Receptor for AGE: implications for the pathogenesis of complications in diabetes and inflammation," New York Metro Pediatric Endocrine Society, N.Y., N.Y., April, 1999.

48. "Advanced Glycation Endproducts and atherosclerosis," FASEB summer conference on Thrombin and Vascular Medicine, Saxton River, Vermont, June, 1999.

49. "Receptor for AGE (RAGE): Implications for Vascular and Inflammatory Dysfunction in Diabetes and other Disorders," Gordon Research Conference on "Angiogenesis and Microcirculation," Salve Regina University, Newport, Rhode Island, August, 1999.

50. "Vascular and endothelial dysfunction in diabetes," Plenary session, The Fourth International Diabetes Federation, Western Pacific Region Congress, Sydney, Australia, August, 1999.

51. "Markers of vascular and endothelial dysfunction in diabetes, " "Meet the Professor session," The Fourth International Diabetes Federation, Western Pacific Region Congress, Sydney, Australia, August, 1999.

52. "Present status of the AGE receptors: RAGE and future developments," ENGAGE meeting," European Association for the Study of Diabetes, Brussels, Belgium, September, 1999.

53. "Receptor for AGE (RAGE): Implications for chronic cellular dysfunction in diabetes, inflammation and tumor biology," Grand Rounds, Division of Rheumatology, Department of Medicine, New York University School of Medicine, October, 1999.

54. "The Molecular Pathogenesis of Diabetic Complications," Frontiers in Diabetes Research, The Naomi Berrie Diabetes Center, Columbia University, New York, New York, November, 1999.

55. "Role of Advanced Glycation End-products in the clinical complications of diabetes," Jubilee symposium in honour of Professor Bernard Jacotot, The French Atherosclerosis Society, Paris, France, November, 1999.

56. "Advanced Glycation Endproducts and their receptors," NIH/NIDCR-sponsored workshop on Diabetes and Oral Health, Washington, D.C., December, 1999.

57. "Advanced Glycation Endproducts and their Receptor RAGE: Implications for the pathogenesis of complications in diabetes, inflammation, Alzheimer's disease and cancer," Institute for Biochemistry, Justus-Liebig-University, Gießen, Germany, December, 1999.

58. "AGE-RAGE interaction: implications for the development of diabetic vasculopathy," Renal Grand Rounds, The New York Hospital Medical Center of Queens, " Queens, New York, March, 2000.

59. "Receptor for Advanced Glycation Endproducts (RAGE) and implications for diabetic complications, inflammation and tumor biology," Lung Biology Conference, Division of Pulmonary Medicine, Department of Medicine, Yale University School of Medicine, New Haven, Connecticut, March, 2000.

60. "Receptor for AGE (RAGE) is a gene within the major histocompatibility class III region: implications for host response mechanisms in homeostasis and chronic diseases," Immunology Seminar Program, College of Biological Sciences, Ohio State University School of Medicine, April, 2000.

61. "Receptor for AGE (RAGE) and implications for the pathogenesis of diabetic complications, inflammation and cancer," Distinguished Lecture, Department of Oral Biology, State University of New York at Buffalo School of Dentistry, Buffalo, New York, May, 2000.

62. "Receptor for AGE (RAGE) and implications for the pathogenesis of diabetic complications and inflammation," German Diabetes Association, Munich, Germany, May, 2000.

63. "Receptor for AGE: a multiligand receptor of the immunoglobulin superfamily with implications for the pathogenesis of diabetic complications and other disorders," Current Topics in Glycobiology, Helsinki, Finland, June, 2000.

64. "Blockade of RAGE, a New Approach to the Treatment of the Complications of Diabetes," Juvenile Diabetes Research Foundation, New York, New York, October, 2000.

65. "RAGE: updates on tumor biology and inflammation paradigms," Department of Medicine, Faculty Research Seminar, Columbia University, New York, New York, December, 2000.

66. "RAGE - a multiligand tale," Seminar, Naomi Berrie Diabetes Center, Columbia University, New York, New York, December, 2000.

67. "RAGE and peripheral nerve repair," Keystone Symposium on Neuronal and Vascular Stress: a New Window on Alzheimer's Disease, Durango, Colorado, January, 2001.

68. "RAGing against the complications of diabetes," Juvenile Diabetes Research Foundation International, Meeting of the Board of Directors, Tampa, Florida, February, 2001.

69. "RAGE and the complications of diabetes and inflammation," Seminar, Boston University Goldman School of Dental Medicine, Boston, Massachusetts, April, 2001.

70. "The Role of Advanced Glycation Endproducts (AGE) and their receptor RAGE in Diabetes, The Periodontal-Systemic Connection: A State of the Art Symposium, Sponsored by the NIDCR and the AAP, Bethesda, Maryland, April, 2001.

71. "RAGE: Updates on the Amyloidoses and Inflammation," Seminar, Department of Molecular Medicine, Weill-Cornell University Medical College, New York, New York, April, 2001.

72. "RAGE and the complications of diabetes: inflammatory overtones," 6th EASD/JDRF Oxford Workshop on the Molecular and Genetic Aspects of the Vascular Complications of Diabetes, Keble College, Oxford, UK, August, 2001.

73. "The Current RAGE of Diabetes," The Diabetes Summit: A New Patient Treatment Regimen in Cardiovascular Disease, Anaheim, California, November, 2001.

74. "RAGE and the Complications of Diabetes - Insights into Proinflammatory Mechanisms," Invited Speaker, Meeting of the Oral Biology, Immunology and Microbiology Research Group, Longboat Key, Florida, January, 2002.

75. "RAGE: Implications for Diabetic Complications and Beyond," Biochemical Pharmacology Discussion Group, New York Academy of Sciences, New York, New York, January, 2002.

76. "RAGE and the complications of diabetes and inflammation," Seminar, Department of Clinical Pharmacology, Department of Medicine, New York University School of Medicine, March, 2002.

77. "RAGE: insights into proinflammatory mechanisms in diabetes and immune/inflammatory

disorders," Keystone Symposium, "Inflammatory Paradigms and the Vasculature II," Steamboat Springs, Colorado, April, 2002.

78. "RAGE: insights into the pathogenesis of diabetic complications and beyond," Grand Rounds, Department of Medicine, College of Physicians & Surgeons, Columbia University, New York, New York, April, 2002.

79. "RAGE and the complications of diabetes," Keynote Lecture, Banting and Best Diabetes Centre Annual Scientific Day, University of Toronto, Toronto, Canada, May, 2002.

CURRICULUM VITAE

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DATE OF BIRTH	2/18/57
MARITAL STATUS	Married, one child

EDUCATION

University	Degree/Field	Year
New York University Washington Square School of the Arts & Sciences New York, New York	B.A. Summa Cum Laude Biology & History	1979
New York University School of Medicine New York, New York	M.D. with Honors	1983

AWARDS AND HONORS

Dean's List	1975-1979
Phi Beta Kappa	1978
Alpha Omega Alpha	1982
Juvenile Diabetes Foundation Fellowship	1990-1992

Harold and Golden Lamport Prize for Excellence in Clinical Research (Columbia University)	1998
American Society of Clinical Investigation	1999
Established Investigator of the American Heart Association	1999
Recipient, Burroughs Wellcome Fund Clinical Scientist Award in Translational Research	1999
Schunk- Prize for Medicine Justus-Liebig-University Gießen, Germany	1999
Distinguished Lecturer Department of Oral Biology State University of New York at Buffalo School of Dentistry	2000
Co-director, Juvenile Diabetes Research Foundation International Center for Complications at Columbia University	2000
Director, Juvenile Diabetes Research Foundation International Center for Complications at Columbia University	2002
Keynote Lecturer, Banting and Best Diabetes Centre Annual Scientific Day, University of Toronto, Toronto, Canada	2002

SPECIALTY BOARDS — Internal Medicine, American Board of Internal Medicine — 1988

LICENSURE — New York State Medical License Number: 159704

PROFESSIONAL MEMBERSHIPS

American Society of Hematology
American Diabetes Association
American Heart Association, Thrombosis Council